

REMARKS

This is in full and timely response to the above-identified Office Action. The above listing of the claims supersedes any previous listing. Favorable reexamination and reconsideration are respectfully requested in view of the preceding amendments and the following remarks.

Claim amendments/Status

In this response, claims 1 and 16 have been amended. Claim 1 is amended to correct an antecedent issue and claim 16 has been amended to remove a superfluous numeral. These amendments do not affect the scope of the claims and their entry at this stage of the prosecution is deemed fully permissible and proper in that, if nothing else, they place the claims in better condition for appeal. Claims 1-17 remain pending in the application.

Rejections under 35 USC § 103

The rejection of claims 1-17 under 35 USC 103(a) as being unpatentable over Caldwell et al. (US Patent 5,572,205) in view of Troxell et al. (US 2004/0080486 A1), is respectfully traversed.

First, in Caldwell no electrical signal controls the properties of layer 23. This layer is exemplified as being an optical correction material such as a transparent acrylic material. In separate telephonic conversations with the Examiner and his supervisor (Examiner Amare Mengistu), the position that the Examiners are entitled to interpret the claim language as broadly as possible, was advanced. This is not correct. MPEP clearly states that during patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification."

Indicating a lack of understanding of what "electro-optical properties" means and advancing the position that the claims need to explain what this means exactly, are untenable excuses to support a position that a layer of plastic which exhibits no response to the application of an electric field meets the claimed requirements when "broadly" interpreted.

Merriam-Webster's Online Dictionary defines electro-optical as: relating to or being a change in the refractive index of a material due to an electric field b : using or being a material that exhibits electro-optical properties.

From Wikipedia, the free encyclopedia: electro-optics is a branch of technology involving components, devices and systems which operate by modification of the optical properties of a material by an electric field. Thus it concerns the interaction between the electromagnetic (optical) and the electrical (electronic) states of materials.

The above is as broad as is it is proper to interpret this term. To broaden beyond this is to improperly change the meaning of term.

Further, electro-optical is a term which has an art accepted meaning. A simple Google™ search gleans 2,440,000 hits for this term.

MPEP 2106 indicates that:

*>USPTO< personnel must always remember to use the perspective of one of ordinary skill in the art. Claims and disclosures are not to be evaluated in a vacuum. If elements of an invention are well known in the art, the applicant does not have to provide a disclosure that describes those elements.

During the above mentioned telephonic conversations, it was advanced that limitations appearing in the specification but not recited in the claim should not be read into the claim. Not a problem. The electro-optical limitation is already in the claims and cannot be ignored particularly light of the fact that the claims are acknowledged as being clear and distinct – note the absence of any § 112 issues.

Furthermore, in Caldwell the electrodes 16a and 16b are not opposite. They are disposed on the same face of the flexible carrier 24. This second error is linked to the fact that the reference 20 of Caldwell does not receive any electrical signal. The function of 20 is to couple electrode 16a and 16b when an operator touches the reference 20. Reference 20 has no electrical connection. As such the Examiner cannot assert that element 20 is an electrode.

The rejection is therefore untenable for at least these reasons.

The Applicant again takes the position that contrary to the position taken in this rejection, Caldwell does not disclose a display device which uses a layer of material exhibiting electro-optical properties able to transmit/block luminous radiations under the effect of an electrical control signal, and reiterates the arguments previously presented.

The claimed material comprises, merely by way of example, liquid crystal. In other words, in the claimed invention the pictogram can be either displayed or not displayed. In Caldwell, the layer 23 only has filtering properties such as refraction or color filtering properties and is disclosed as being an "optical correction material" – as such it cannot meet the claimed requirements - see column 4 lines 14-42 wherein it is set forth that:

In order to apply the conductive elements 16a, 16b of each touch pad to surface 18 of substrate 12, the conductive elements 16a, 16b are mounted to a flexible carrier 24. Carrier 24 is adhered to surface 18 by an adhesive layer 26. Additionally, indicators 22 are mounted to flexible carrier 24 in order to locate the indicators in a position where they may be viewed through substrate 12. **In order to correct optical distortion** created by the presence of the modulations, or dimples, on surface 18, **an optical correction material 23 is positioned between indicator 22 and modulated surface 18.** Optical correction material 23 has an index of refraction that is compatible with that of substrate 12 and fills in the voids between the dimples of surface 18, as well as the space between surface 18 and indicator 22. In this manner, light emitted by indicator 22 passes through substrate 12 without substantial distortion.

Operation of optical correction material 23 may be understood by comparing an indicator 22' in FIG. 6 with an indicator 22" in FIG. 7. Indicator 22 illustrates the optical effect of modulated surface 18. The different incidence angles of light rays caused by the dimples creates a "fish-eye" effect whereby an initially homogeneous indication takes on the appearance of numerous circles and the indication has serrated edges. **In contrast, indicator 22" illustrates the corrective effect of optical correction material 23 in eliminating distortions to the homogeneous appearance of the indicator, including retaining the crisp edges of the initial indication.**

Optical correction material, in the illustrated embodiment, is a transparent acrylic material. While optical correction material 23 is clear, it may be also dyed in order to modify the color of indicators 22. A clear acrylic material in transfer adhesive form is commercially available from the 3M Company, Minneapolis, Minn., and marketed under Type 300MP. In a most preferred embodiment, a clear acrylic adhesive, such as 3M Type 300MP, is applied to the entire interface between surface 18 and flexible carrier 24 at a thickness of 0.013 inches in order to affix the flexible carrier to the substrate and to provide optical correction material for indicators 22. (Emphasis added)

Thus, the rejection fails to identify at least one of the claimed elements. That is to say, the layer of material exhibiting electro-optical properties. The rejection is therefore rendered untenable for at least this reason.

Further, as will be appreciated, the properties of the material 23 disclosed in Caldwell, cannot be modified under the control of a control signal. Furthermore, in Caldwell, the display function, operated by indicator 22, is situated in a zone distinct from the touch control device operates by electrodes 16a and 16b. In contrast, the claimed subject matter is such that a corresponding electrode (the claimed second electrode) is used for both functions: 1) display function and 2) touch sensitive function.

In the claimed subject matter, the first and the second electrodes are located opposite one another to permit the displaying of the pictogram. Therefore, in the interest of clarity, claim 1, has been amended to recite that the electrical control signal is applied between first and second electrode. This amendment is supported in the application as filed on page 4, lines 26 to 30.

In Troxell, electrodes 414 and 408 are not "opposite" as claimed. In Troxell, electrode 414 is used as a shield between pairs of electrode 408A and 408B. Electrode 404 is situated "in areas away from electrodes pairs 408A and 408B". See page 4 paragraph [0034] of Troxell.

Further, in Troxell, there is no opposite electrode. In the claimed invention, the two electrodes are used for display. The two electrodes need to be opposite to modify the property

of the liquid crystal which is placed between these electrodes. The liquid crystal is referred generically as a "layer of material exhibiting electro-optical properties" in claim 1.

The principle of the touch sensitive detection is the same in both the Caldwell and Troxell references. In both documents the respective arrangements use a couple of coplanar electrodes. The finger of an operator can modify interaction between the two electrodes of a couple.

As a result, it is submitted that there is no combination of these two documents that would lead the hypothetical person of ordinary skill to the claimed subject matter.

Conclusion

All objections and rejections having been addressed, it is respectfully submitted that the present application should be in condition for allowance and a Notice to that effect is earnestly solicited.

Early issuance of a Notice of Allowance is courteously solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

To the extent necessary, a petition for an extension of time under 37 CFR § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,
LOWE HAUPTMAN HAM & BERNER, LLP



Kenneth M. Berner
Registration No. 37,093

1700 Diagonal Road, Suite 300
Alexandria, Virginia 22314
(703) 684-1111
(703) 518-5499 Facsimile
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